acetic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro[3',4':6,7]naphtho[2,3-d][1,3]dioxol-5-yl)-phenyl ester;

benzoic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro[3',4':6,7]naphtho[2,3-d][1,3]dioxol-5-yl)-phenyl ester;

propionic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro[3',4':6,7]naphtho [2,3-d] [1,3]dioxol-5-yl)-phenyl ester;

nicotinic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro[3',4':6,7]naphtho[2,3-d][1,3]dioxol-5-yl)-phenyl ester;

1H-pyrrole-2-carboxylic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro [3',4':6,7]naphtho[2,3-d][1,3]dioxol-5-yl)-phenyl ester;

3H-imidazole-4-carboxylic acid (5S)-2,6-dimethoxy-4-(6-oxo-5,6,8,9-tetrahydrofuro [3',4':6,7]naphtho[2,3-d][1,3]dioxol-5-yl)-phenyl ester;

(5S)-5-(4-but-3-enyloxy-3,5-dimethoxy-phenyl)-5,9-dihydro-8H-furo[3',4':6,7]naphtho [2,3-d][1,3]dioxol-6-one;

(5S)-5-(4-cyclohexylmethoxy-3,5-dimethoxy-phenyl)-5,9-dihydro-8H-furo[3',4':6,7]naphtho [2,3-d][1,3]dioxol-6-one;

(5S)-5-(4-cyclopentylmethoxy-3,5-dimethoxy-phenyl)-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one;

(5S)-5-[4-(2-cyclohexyl-ethoxy)-3,5-dimethoxy-phenyl]-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one;

(5S)-5-[3,5-dimethoxy-4-(pyridin-4-ylmethoxy)-phenyl]-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one;

(5S)-5-(4-benzyloxy-3,5-dimethoxy-phenyl)-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one;

(5S)-5-[3,5-dimethoxy-4-(4-trifluoromethyl-benzyloxy)-phenyl]-5,9-dihydro-8H-furo [3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one;

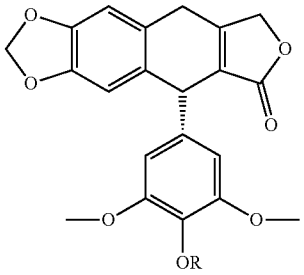
(5S)-5-[3,5-dimethoxy-4-(4-methyl-benzyloxy)-phenyl]-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one; and

(5S)-5-[3,5-dimethoxy-4-(4-fluorobenzyloxy)-phenyl]-5,9-dihydro-8H-furo[3',4':6,7]naphtho[2,3-d][1,3]dioxol-6-one.

3. A method of preparing a compound of Formula 1 below, comprising:

obtaining a target compound by reacting 4'-demethyl-β-apopicropodophyllin [(5S)-5-(4-hydroxy-3,5-dimethoxy-phenyl)-5,9-dihydro-8H-furo[3',4':6,7]naphtho [2,3-d][1,3]dioxol-6-one] with a chemical (R-L) in which a leaving group (L) binds to a substituent (R) introduced to the 4'-position of 4'-demethyl-β-apopicropodophyllin in the presence of an organic or inorganic base:

[Formula 1]



In Formula 1, R is a C_2 to C_{10} alkyl group, a C_2 to C_{10} alkyl group containing an allyl- or alkyne, a —$[CH_2]_n$—C_3 to C_8 cycloalkyl group, a substituted or unsubstituted —$[CH_2]_n$-phenyl group, a substituted or unsubstituted —$[CH_2]_n$—C_5 to C_6 heteroaromatic group, a —C(=O)—C_1 to C_8 alkyl group, a substituted or unsubstituted —C(=O)—$[CH_2]_n$-phenyl group, or a substituted or unsubstituted —C(=O)—$[CH_2]_n$—C_5 to C_6 heteroaromatic group, wherein n is an integer of 0 to 6.

4. The method of claim **3**, wherein the organic or inorganic base is any one or more of sodium hydride (NaH), lithium diisopropylamine (LDA), triethylamine (TEA), pyridine, diisopropylethylamine (DIPEA), calcium carbonate (K_2CO_3) and sodium hydrogen carbonate ($NaHCO_3$).

5. The method of claim **3**, wherein the leaving group (L) is any one of a halide group, a toluenesulfonate group, a methanesulfonate group and trifluoromethanesulfonate group.

6. A pharmaceutical composition for treating cancer, comprising the compound represented by Formula 1 of claim **1** or a pharmaceutically acceptable salt thereof as an active ingredient.

* * * * *